

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Achyranthes rotundata*

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Fish and Wildlife Service determines *Achyranthes rotundata* to be an endangered species, under the authority contained in the Endangered Species Act of 1973, as amended. This plant is known from only two populations, one located at Kaena Point and the second at Barbers Point, island of Oahu, Hawaii. The Kaena Point population consists of only two individuals and is believed to be near extirpation. The Barbers Point population is vulnerable to any substantial habitat alteration and faces the potential threat of complete habitat destruction during conversion of existing sites to industrial use.

**DATE:** The effective date of this rule is April 25, 1986.

**ADDRESS:** The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Lloyd 500 Building, 500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232.

**FOR FURTHER INFORMATION CONTACT:** Mr. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231-6131 or FTS 429-6131).

**SUPPLEMENTARY INFORMATION:****Background**

*Achyranthes rotundata* was first recorded in 1819 by C. Gaudichaud during the voyage of the *Uranie*. It was later formally described by W. Hillebrand in 1888 as a variety of *Achyranthes splendens*. The species is a low shrub, 1 1/2 to 6 1/2 feet in height and is covered with short, silvery hairs. Small inconspicuous flowers are borne in terminal spikes with prominent floral and rachis bracts.

Harold St. John (1976) first recognized this taxon as a species endemic to the island of Oahu, and described it as abundant in the seaward portions of the 'Ewa Coral Plain. He concluded that it may have once been distributed all along the arid and semi-arid coastal lowlands of the island, from Barbers Point to Kaena Point. *Achyranthes rotundata* is now unknown except for

two populations. One population is found on the Military Reserve at Kaena Point and consists of only two individuals; these may now be gone. Approximately 400 plants are known from the Barbers Point population at the other extreme of the historical range. This population consists of four sub-populations, one of which contains about 50 percent of the known individuals of the species and occurs on lands owned by the Federal Government and managed by the Coast Guard. The remaining three small colonies are on Federal lands managed by the Navy and on private lands owned by the Estate of James Campbell and the Cook Inlet Region, Inc. *Achyranthes rotundata* has been extirpated from the remainder of its historic range by habitat conversion for mostly industrial and agricultural developments and habitat degradation by invading exotic shrubs and trees.

Research now in progress indicates that two additional species of *Achyranthes*, now believed to be extinct, may in fact be synonymous with *A. rotundata*. Should this prove true, the species would originally have been found on Lanai and Molokai, as well as Oahu, emphasizing its historic decline in range.

Section 12 of the Endangered Species Act of 1973 (Act) directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of this report as a petition within the context of section 4(c)(2) of the Act (petitions acceptance is now governed by section 4(b)(3) of the Act, as amended), and of its intention to review the status of the plant taxa named within. On June 16, 1976, the Service published a proposed rule in the *Federal Register* (41 FR 24523) to determine approximately 1,700 vascular plant taxa to be endangered species. This list was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, *Federal Register* publication. *Achyranthes rotundata* was included in the July 1, 1975, notice and the June 16, 1976, proposal as *Achyranthes splendens* var. *rotundata*. General comments on the 1976 proposal were summarized in an April 26, 1978, *Federal Register* publication (43 FR 17909).

The Endangered Species Act Amendments of 1978 required that all proposals over two years old be

withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. Subsequently, on December 10, 1979, the Service published a notice of the withdrawal of the portion of the June 16, 1976, proposal that had not been made final, along with other proposals that had expired (44 FR 70796); this notice of withdrawal included *Achyranthes rotundata*. *Achyranthes rotundata* (as *Achyranthes splendens* var. *rotundata*) was included in an updated notice of review for native plants on December 15, 1980 (45 FR 82485), as a candidate species. On February 15, 1983, the Service published a notice (48 FR 6752) of its finding that the petitioned listing of this species may be warranted, in accordance with section 4(b)(3)(A) of the Act, as amended in 1982. On October 13, 1983, and again on October 13, 1984, a petition finding was made that listing of this species was warranted, but precluded by other pending listing actions, in accordance with section 4(b)(3)(B)(iii). A reproposal was published on April 22, 1985 (50 FR 15764), based on information available at the time of the 1976 proposal and information gathered after that time and summarized in a detailed status report prepared under contract by a University of Hawaii botanist (Nagata 1981). The Service now determines *Achyranthes rotundata* to be an endangered species with the publication of this final rule.

**Summary of Comments and Recommendations**

In the April 22, 1985, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice that invited general public comment was published in the *Honolulu Star Bulletin* and the *Honolulu Advertiser* on May 31, 1985. Eight letters of comment were received and are discussed below. A public hearing was requested by the Governor of Hawaii and held in 'Ewa Beach, Hawaii on August 5, 1985. A single observer attended the hearing; no testimony was received.

Comments were received from the Governor of the State of Hawaii, the Chairperson of the State Board of Land and Natural Resources, the Administrator of the State Division of Forestry and Wildlife, the Director of the Waimea Arboretum and Botanical

Garden, the Chairman of the Department of Botany at the Bishop Museum, the Estate of James Campbell, the Department of the Navy, and the United States Coast Guard. All comments received have been considered in formulating this final rule.

The Governor supported the listing of the taxon because "the number of these plants has declined over time and their habitat has been modified." He also requested the Service conduct a public hearing because private lands were involved. Mr. Libert Landgraf, Administrator of the State Division of Forestry and Wildlife, referred to the Governor's letter and asked that we "... consider his comments as the official position of my Division." Mr. Susumu Ono, Chairperson of the Board of Land and Natural Resources offered additional information, chiefly a plant census update. The Department of the Navy also provided additional census information. During a biological survey of the Barbers Point Naval Air Station in 1985, a botanist rediscovered a colony of about sixty plants. This population had last been seen in 1969. The Navy assured that all necessary steps are being taken to protect the plant and to ensure its continued existence in this location. The Coast Guard stated that it did not have additional information regarding *Achyranthes* and did not expect any Coast Guard activity to be detrimental to the plant. The Coast Guard also stated that it would assist in protecting the population growing on its property. Mr. Keith Woolliams, Director of the Waimea Arboretum and Botanical Garden, and Dr. S.H. Sohmer, Chairman of the Botany Department, Bernice Pauahi Bishop Museum, both supported the listing of this *Achyranthes* as an endangered species.

The Estate of James Campbell is one of two private landowners upon whose property *Achyranthes rotundata* grows. The Estate noted that the proposed rule indicates that 80 percent of the world's population of *Achyranthes* is located on its land and stated that, according to a recent survey by The Nature Conservancy, only about 9 percent of known *Achyranthes* plants presently remain on this property. Both figures are correct for their respective times. The final rule has been modified to reflect this change in the number of individual plants. The Estate stated that two of the three populations on its land have been surveyed within the past year, but that the third population has not been surveyed since 1969. Technically, the existence of that population has not been documented since 1969; attempts have been made to relocate it, but none

have been successful. The Estate recommended that as the species is highly susceptible to human intervention, the Service should consider transplanting it to a more appropriate location. It continued, "According to the Nature Conservancy survey, there are currently fourteen various sittings of *Achyranthes rotundata* (including three populations on Campbell Estate property). Given the type of use of the property at the Industrial Park, we recommend your consideration of either relocating the populations to other more appropriate areas, or removing *Achyranthes* from the endangered species listing based on the number of populations currently surveyed." Although the Service believes there is no area more appropriate for the plant than that area where it occurs naturally, relocating the populations could be considered in the development of the recovery plan for this species. The fourteen sittings listed by The Nature Conservancy are historic sittings; only four remain. Given the present threats to and recent decline of the four extant small patches of this species, comprising only about 400 plants in all, the Service believes that there is no basis for failing to list it as proposed.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Achyranthes rotundata* should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424) were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Achyranthes rotundata* Hbd.) St. John are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Approximately 88 percent of the historic range of *Achyranthes rotundata* has been developed for industrial, agricultural, residential, and recreational uses. The remaining 12 percent of its range has been degraded by the intrusion of exotic shrub and tree species (Nagata 1981) and faces the threat of development. Dense thickets of an introduced species of *Leucaena* at Kaena Point threaten the remaining two plants by competing with them for space. On the Ewa Plains at Barbers Point, thickets of *Pluchea*, also

exotic, are competing with the remaining *Achyranthes rotundata* individuals; and encroaching forests of kiawe, or mesquite (*Prosopis pallida*), another introduced species, are altering the open sunny habitat of the species. One sub-population near Barbers Point lighthouse was partially destroyed when habitat was converted for industrial uses in 1980 and 1981, resulting in the loss of 75 percent of the sub-population. The remaining individuals were on Federal land, which was later bulldozed, resulting in a loss of about 50 percent of these individuals. The largest sub-population of the species formerly was on privately owned land. Most of these were destroyed some time between 1981 and 1984. The total number of *Achyranthes* individuals decreased from an estimated 2,000 to an estimated 400 between 1981 and 1985; the decline of the species has been due to human activities.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Inflorescences and leaves of *Achyranthes rotundata* have been used for making leis (flower garlands). The grey foliage has been valued for traditional lei making.

C. *Disease or predation.* At one colony on Barbers Point the parasitic vine, *Cassytha filiformis*, forms a dense covering over shrubs it has parasitized and may threaten *Achyranthes rotundata* (Nagata 1981).

D. *The inadequacy of existing regulatory mechanisms.* No regulatory mechanisms exist at the present time. Federal listing would require permits for taking of *Achyranthes rotundata* on Federal lands. Federal listing would also invoke listing under Hawaiian State law, which prohibits taking and encourages conservation by State government agencies.

E. *Other natural or manmade factors affecting its continued existence.* None are known at this time, but further reductions of population size could reduce the reproductive capabilities and genetic potential of the species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list *Achyranthes rotundata* as endangered. Threatened status would not reflect the decline of the species, which is in danger of extinction through the loss of historical range due to past development, the threats of further development, and degradation of suitable habitat. A discussion of why critical habitat is not

being designated is included in the "Critical Habitat" section.

#### Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. As discussed under Factor "B" in the "Summary of Factors Affecting the Species," *Achyranthes rotundata* is threatened by taking for the making of leis, an activity not regulated by the Endangered Species Act with respect to plants, except for a prohibition against removal and reduction to possession of endangered plants from lands under Federal jurisdiction. Publication of critical habitat descriptions would make this species even more vulnerable. Therefore, it would not be prudent to designate critical habitat for *Achyranthes rotundata* at this time.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States, and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402, and are now under revision (see proposal at 48 FR 29990; June 29, 1983). Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to

jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

*Achyranthes rotundata* occurs on Federal lands at the Kaena Military Reserve, Barbers Point Naval Air Station, and Barbers Point Lighthouse grounds. Two of these areas in whole or in part are being considered for, or are in the process of being declared excess. Cooperation between the U.S. Fish and Wildlife Service and the Federal agencies involved will be necessary to ensure the protection of *Achyranthes rotundata* during this process.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plant species. With respect to *Achyranthes rotundata*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale this species in interstate or foreign commerce. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. It is anticipated that few, if any, trade permits would be requested for *Achyranthes rotundata*, as no trade in the species is known.

Section 9(a)(2)(B) of the Act, as amended in 1982, prohibits the removal and reduction to possession of endangered plant species from areas under Federal jurisdiction. This prohibition now applies to *Achyranthes rotundata*. Permits for exceptions to this prohibition are available through regulations published September 30, 1985 (50 FR 39681, to be codified at 50 CFR 17.62). The species is found on Federal lands, and a few requests for collecting permits are anticipated for lei-making activities. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish

and Wildlife Service, Washington, D.C. 20240 (703/235-1903).

#### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

#### Literature Cited

- Nagata, K.M. 1981. Status report on *Achyranthes rotundata*. Research Corporation of the University of Hawaii, under contract 14-16-001-79096, to the U.S. Fish and Wildlife Service, Honolulu, Hawaii.  
St. John, H. 1979. Monograph of the Hawaiian species of *Achyranthes* (Amaranthaceae). Hawaiian Plant Studies 56. Pacific Science 33(4):333-350.

#### Author

The primary author of this final rule is Dr. Derral R. Herbst, U.S. Fish and Wildlife Service, 300 Ala Moana Blvd., P.O. Box 50167, Honolulu, Hawaii 96850 (808/546-7530 or FTS 546-7530).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

#### Regulation Promulgation

#### PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 et seq.).

2. Amend § 17.12(h) by adding the following, in alphabetical order, to the List of Endangered and Threatened Plants:

#### § 17.12 Endangered and threatened plants.

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(h) \* \* \*

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Amaranthaceae—Amaranth family:						
<i>Achyranthes rotundata</i>	None	U.S.A. (Hi)	E	220	NA	NA

Dated: February 28, 1986.

**P. Daniel Smith,**

*Deputy Assistant Secretary for Fish and  
Wildlife and Parks.*

[FR Doc. 86-6557 Filed 3-25-86; 8:45 am]

BILLING CODE 4310-55-M